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Rural Credit Markets and Aggregate Shocks: The Experience of Nuits St. Georges, 1756–1776

JEAN-LAURENT ROSENTHAL

Using a complete enumeration of credit contracts for a rural area in Burgundy, this article examines how credit markets functioned and what role they served. Credit markets distributed funds to a large fraction of the population, and they were organized to mediate problems of asymmetric information. A central constraint on credit markets, however, was the threat of government intervention. Because of this threat, capital markets remained relatively isolated from one another.

For decades historians have either ignored or bad-mouthed rural credit in preindustrial Europe. Some have assumed that there was no rural credit worthy of study before the late nineteenth-century arrival of banks. Others have viewed debt as merely a mechanism whereby peasants lost their property. In recent years a different view has emerged based on new empirical research. Economists and historians alike are discovering vibrant rural credit systems from southern Italy to northeastern Germany.¹ All these credit systems have in common that they relied, in part at least, on notaries who recorded and kept copies of private contracts. Thus much data on credit activity survives. This article reports on work in progress on the credit system of a small town in Burgundy well known by oenophiles: Nuits St. Georges.

Three decades ago Pierre de Saint Jacob published his *thèse d'état* on the peasants of Burgundy.² Among French social historians studying the countryside, he alone paid close attention to credit. Relying on limited data, however, he was unable to establish much of a link between the financial system and the real economy. Using a complete enumeration of credit contracts from 1757 through 1776, I propose to reassess the importance of rural credit. I begin by describing the area's economy and the types of credit transactions that we can observe. I then turn to three issues: How was the credit market organized? How

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¹ Fontaine, "Espace"; Winnige, "Credit"; Dellile, "Le trop"; and Servais, *La rente*.

² Saint-Jacob, *Les paysans*.

broadly were funds distributed? How well did the credit system overcome aggregate changes in the economy?

AN ECONOMIC SUMMARY

By 1750, the Côte d'Or, Burgundy's premier winegrowing region, had already achieved considerable economic growth. Although high quality white wines are produced further to the north, the Côte de Nuits marks the limit of premium red wine production. Only a small proportion of the available land, however, can bear vines—the Côte, the steep, east-facing slope of the Saône valley. Turning part of this slope into a vineyard typically involved considerable outlays of capital, as it was necessary to terrace the land. As a consequence, in Burgundy, unlike in the Bordelais or other regions, it was difficult to adjust wine acreage to demand. Thus it may not be entirely surprising that vineyards in Nuits specialized in producing high-quality wines whose demand would presumably be more stable.

Geography seems to have determined much of the organization of economic activity in the area. To the east of the Côte, rises a series of hills, cut by deep valleys that were principally covered by forest and pasture in the eighteenth century. To the west of the Côte, the terrain becomes increasingly wet as one nears the Saône river, and the grain fields that adjoined the vineyards during this period gave way more and more to woodlands. In a space less than 20 miles across, there were three distinct economic areas: the hills, the poorest area, dedicated to livestock and wood-related activities; the Côte, where wine predominated; and the plains, where grain growing reigned supreme. The different specializations of these three areas made complementary demands on local labor supplies. Because wheat is harvested nearly a month before grapes must be cut, the same temporary labor forces can be used for both. The intensive wheat farms and the vineyards drew labor both from the hills and from the textile industry. Indeed putting-out, that familiar sideline of intensive agriculture, was widespread in the larger villages.³ The spatial segmentation of agriculture also implies that individual farmers were probably far more specialized in the Côte de Nuits region than elsewhere and therefore more at risk in case a specific crop—grapes or grain—failed.

The complex spatial distribution of economic activity was matched by an intricate organization of production. Throughout the region landownership was highly concentrated, and most farmers were tenants of nobles or of the church. In the grain-growing areas large farms predominated, whereas in the winegrowing areas tenancies were rather small. Few grape growers could afford the equipment necessary for winemak-

³ Much of this general information can be gleaned from the occupational distribution on the tax list (*rolles de tailles*, Archives Departementales de la Côte d'Or [hereafter AD Cote d'Or], serie C).

ing, so most of them sold their crop to vintners. Wine merchants based in Nuits, Dijon, and Beaune bought significant amounts of wine to ship to Paris and Rouen for international export.

Nuits St. Georges's economic characteristics provide no clear indication of the extent of credit activity relative to other areas of similar size. On the one hand, extensive commercialization and specialization should have increased the demand for financial services. On the other, concentrated land ownership should have decreased it. In the absence of aggregate data, any conclusions about representativeness will have to wait until more of these markets have been studied systematically.

CREDIT ACTIVITY

At the beginning of the eighteenth century the crown instituted a tax on notarial contracts and all other private contracts that were part of legal procedures.⁴ This tax was disguised as a registration and authentication process called the *contrôle des actes*. The scribe of the *contrôle* entered summary information about the contract next to the tax payment. Louis Lebon, Nuits's controller during the period, was neither compulsive (like a few) nor sloppy (like many). He nearly always took down the name of individuals and their residence and profession. In the case of debts, he also recorded the amount of money at stake and the date that the agreement was signed. He did not find it desirable, however, to include information about collateral, purpose, or duration.

Before describing the data set further we must briefly discuss what kinds of credit contracts were registered in Nuits. If the contractors made use of a notary, prompt registration was mandatory. If, however, the parties conducted their transactions on their own, registration was optional unless the contract became part of a legal process. Thus the private contracts that I enumerated are a subsample of all private agreements. Four types of credit transactions appear in the registers: *rentes* (perpetual or life annuities) and obligations (medium-term contracts), notes, and debt transfers (cessions).⁵ *Rentes* and obligations were always notarized, whereas notes were always private agreements. One finds both short-term notes (*billets*) and long-term contracts (*billets rentuels*) in the record.⁶ Long-term notes were quite rare, and appear to be unique to Burgundy. The final category of contracts, transfers, is the most heterogeneous of all. Transfers were common for both notarized

⁴ In France most private contracts were drawn by notaries, semipublic officials who drew up and retained copies of private agreements.

⁵ In Nuits, *rentes* were overwhelmingly perpetuals; of 554 *rentes*, only 11 were life annuities.

⁶ Short-term notes also include a few letters of exchange, but the bulk of private agreements were simply *billets*.

and non-notarized agreements and could happen either privately or before a notary.⁷

The data include slightly more than 8,100 contracts from the registers of the *controle*.⁸ For each notarized contract, I recorded the names, occupations, sex, and residences of all parties, as well as the name of the notary, size of loan, date, and type of contract. For each registered note, I collected the same information plus the date on which the note was signed. Although all this information was almost always recovered for notarized contracts, note contracts frequently provided only the last name, the first letter of the first name, and residence of one of the parties. However, it was possible to complete the missing data in a large number of cases because most notes were signed by a few merchants in Nuits.⁹

The fact that not all credit contracts were registered forces us to confront the question of sample selection squarely. The problem is most obvious in the case of notes, and at present we cannot use the sample to reconstruct levels of note activity. The notes in the sample can still be used to understand how the note and notarial markets interconnected. Nonetheless, we must view the results of this analysis as tentative. A second and related problem results from the coexistence of multiple credit markets that we observe with unequal accuracy, making interpretation of the total volumes of credit and the determinants of contract choice difficult. This problem extends beyond the boundaries of the registration process because there were at least two other capital transfer systems that were rarely registered as credit contracts: book credit with merchants and intrafamily capital transfers. Even within the notarial system, the links between obligations and *rentes* remain unclear.

As Table 1 shows, farmers were predominantly borrowers, and they carried out more than 80 percent of their notarial loans via obligations. Every other category was overrepresented both as borrowers and as lenders in terms of their share of the population.¹⁰ Merchants were the only social group other than farmers to evidence a strong preference for

⁷ Cessions really involved three parties: the debtor, the original creditor, and the new creditor. Because the debtor's contractual position did not change, I concentrate on the two creditors between whom the capital was being transferred at the time of the cession.

⁸ AD Côte d'Or, serie C, 9,844–9,872. These include all registered contracts for the *baillage* of Nuits, a judicial and administrative territorial unit that comprised the town and two dozen surrounding villages. The data collection process is ongoing and will cover 1750 through 1780.

⁹ It was more difficult to identify note borrowers than note lenders, because the borrowers simply signed the note, whereas the controller knew more about the lender who registered it. My identification procedure was extremely conservative in that notes were assigned to a particular individual only if there was only one possible match. Examination of judicial records, however, suggests that notes were mostly issued by merchants both to buy—as debtors—or to sell goods—as creditors.

¹⁰ The tax roles understate the size of the agricultural population because only half the small villages have been enumerated and they contained almost exclusively farmers.

TABLE 1
CONTRACT CHOICE BY SOCIAL GROUP AND TYPE OF CONTRACT^a
(percentages)

	Notes		Obligations		<i>Rentes</i>		Cessions		Taxpayers
	Numbers	Value			N	V	N	V	N
Occupations	(N)	(V)	N	V	N	V	N	V	
Borrowers									
Unknown	60.2	40.1	9.4	9.3	9.3	17.7	17.7	13.7	152
Agriculture	19.1	11.1	74.5	66.6	56.0	28.9	28.9	17.7	1,646
Artisans	4.6	5.0	7.2	6.7	13.1	11.1	11.0	10.2	328
Merchants	8.3	18.1	7.6	13.9	14.2	23.2	23.2	35.7	112
Professions	3.3	11.5	0.9	2.5	4.0	11.5	11.5	12.4	70
Notaries	1.6	7.5	0.1	0.1	1.6	5.2	5.2	2.3	11
Clergy	1.8	6.1	0.2	0.6	1.1	1.5	1.5	2.9	n.a ^c
Nobles	0.8	0.6	0.1	0.3	0.7	0.9	0.9	5.1	n.a ^c
Lenders									
Unknown	38.2	35.6	10.9	14.6	16.1	17.2	17.2	10.1	
Agriculture	7.1	4.8	22.2	18.2	34.0	18.9	19.0	8.9	
Artisans	4.2	7.1	4.6	4.7	8.4	5.4	5.4	7.1	
Merchants	27.0	29.2	40.6	40.6	21	26.6	26.7	47.6	
Professions	6.5	9.4	7.3	7.6	6.3	10.5	10.5	11.4	
Notaries	13.0	6.3	7.7	4.3	3.0	6.4	6.4	3.3	
Clergy	3.1	9.9	1.5	1.7	4.4	5.9	5.9	6.5	
Nobles	1.6	2.7	5.1	8.1	7.5	8.7	8.7	4.8	
Totals									
Contracts	2,619		4,545		572		373		
Volume		362,000		554,000		294,000		202,000	

^a The group shares are reported as percentages of total activity, either number of contracts or volume in *livres*. In the last line, volume is reported in *livres*.

^b The population data are from an incomplete list of taxpayers for 1760 that includes Nuits and 48 of 83 villages in the area.

^c Nobles and the clergy were exempt from the *taille* and thus do not appear on the *rolles*.

Source: See the text.

a certain type of contract (in this case notes). Cessions were equal to one-sixth the annual volume of lending in a market whose stock of outstanding debt could hardly have been more than five or six times larger. Indeed, obligations and notes were outstanding for less than a year on average and *rentes* for about 20 years before being repaid. Credit contracts may thus appear rather illiquid, as transfers amounted to only one-thirtieth of the volume of outstanding debts. The median size of cessions, however, was twice that of obligations or notes, suggesting that the secondary market was restricted to larger and longer-term debts (see Table 2). Given the relatively short duration of notes and obligations, an individual who wanted to rearrange his portfolio simply let such outstanding loans come due. For longer debts, especially *rentes*, in which the lender did not control duration, some sort of a secondary market was far more important, and the evidence

TABLE 2
SUMMARY DATA BY TYPE OF CONTRACT

Data	Notes	Obligations	<i>Rentes</i>	Cessions
Numbers	2,619	4,545	572	373
Mean (<i>livres</i>)	146	122	516	542
Median (<i>livres</i>)	61	65	250	120
Standard deviation	439	249	902	106
Duration (years)	0.5	1	20	

Source: See the text.

suggests that its activity was non-negligible because cessions were roughly equivalent to the annual volume of *rentes*.

Over the entire period, obligations were small in size, averaging about four months' wages for a skilled worker.¹¹ Notes were only slightly larger (averaging 146 *livres* compared with 122), but as we shall see, the two instruments served distinct purposes. *Rentes* were almost five times bigger than these other contracts, which is hardly surprising since borrowers in that market faced the additional transaction cost of collateralizing land. Because of their larger size, *rentes* amounted to more than a third of notarized credit, even though they were only 10 percent of contracts. The small size and short duration of most contracts imply that the fixed costs of contracting were an important component of total borrowing costs. The significant differences in social composition between borrowers and lenders suggests that the market found a way to reduce these contracting costs. Indeed, unlike the highly bilateral credit markets found elsewhere, loan contracting in Nuits St. Georges was heavily intermediated.

Two groups dominated the provision of credit: merchants and notaries. Together they intermediated most of the loans, although they accounted for less than 3 percent of the population. These two groups carried out their business in rather different fashions.¹² Merchants were the creditors in about 40 percent of all loans made in Nuits. They borrowed money either in Dijon or Beaune via the note market, or long-term in Nuits or elsewhere via *rentes*. They then lent the proceeds to farmers. Notaries shied away from direct intermediation (their own loans amounted only to 4.7 percent of total loans), acting instead as brokers by matching potential lenders and borrowers in what remained bilateral contracts. They also provided information services to local seigniors, clerical institutions, and private parties, effectively managing their land and financial portfolios. Notarial intermediation thus

¹¹ Contract size in Nuits appears to have been smaller than elsewhere. Compare Rosenthal, "Credit Markets"; and Hoffman et al., "Economie et politique."

¹² Intermediation by merchants is well captured by the data collected because many merchants both borrowed and lent extensively. Notaries are more elusive and their intermediation must be inferred from client loyalty rates and more qualitative sources. See for instance Hoffman et al., "What Do Notaries Do?"

amounted to several times the volume of their direct loans.¹³ The two networks were not fully separate as merchants borrowed and sometimes lent via *rentes*, whereas notaries often issued notes to their clients and sometimes borrowed without notarizing their contracts.

Because merchant and notarial lending faced different constraints, they could compete indefinitely without one driving the other out of business. The merchant system may appear superior because loans were pooled across a large number of borrowers. Merchants, however, were engaged in the tricky business of matching heterogeneous financial assets because most of their funds came from short-term notes and they lent in the longer-term obligation market. Because the note market was the mechanism behind regional movements of private capital and public finance, it was at the mercy of both commercial crises and government defaults. Credit contractions were particularly taxing for merchants because their creditors had an incentive to try to shield themselves by calling in all their notes whenever a credit crisis threatened. One example of the merchants' exposure to credit contractions occurred in 1770. The government defaulted on its short-term debt, triggering a series of financial crises throughout France that affected merchants from Marseilles in the south to Lille in the north.¹⁴ In Nuits, the 1770 crisis caused the downfall of Antoine Lacoste, who had long been the most successful merchant lender, accounting for about 12 percent of all obligation loans in previous years. In 1770 his creditors called in their funds, but because his debtors were not obligated to repay on demand, there was little Lacoste could do. Lacoste never recovered his financial preeminence, although he continued to operate both as a merchant and as a small-scale lender.

The notarial credit system was obviously shielded from these problems because nearly all contracts were bilateral—that is, notaries had no financial stake in the contracts they brokered. Moreover, the lesser importance of interregional flows in their activity insulated notaries from financial crises.¹⁵ The problem for notaries was that they only brokered transactions. In such agreements investors bear all the risks from the loans they make. The lack of risk pooling required notaries to match borrowers and lenders far more carefully than merchants who offered a diversified portfolio. Although notaries did serve some large clients, most of their lenders had few loans in their portfolios and were probably not willing to bear much risk on any given contract. Thus the

¹³ Nobles tended to be loyal to notaries who not only brokered their loans but also recorded their land leases and transcribed the verdicts of the seigniorial court.

¹⁴ Vardi, *Land*, chap. 10; Carrière, *Banque*; Moulinas, *Les juifs*, pp. 341–57; and Chaussinand-Nogaret, *Les financiers*.

¹⁵ Nonlocal participants were about 10 percent of the identified note participants and only 4 percent of either *rente* or obligation participants.

riskier clients of the merchant credit system simply could not be served by notaries.

The small average size of most types of loans, and their much smaller median size, suggest something of the purpose of the vast majority of these credit agreements. Most loans could hardly have been negotiated for major real estate acquisitions or improvements, nor were they the kind of debts that might have resulted from a month's worth of purchases at a baker's.¹⁶ Rather these contracts were of a size and duration that might be required for working capital, to purchase livestock, seed, tools, and the like. They were also of a size that could result from settling long-running accounts in a merchant's book.¹⁷ The magnitude of such borrowing may have been affected by economic fluctuations, but the link is not straightforward. In bad years people may have borrowed to smooth consumption or to replenish working capital. Conversely, credit activity may have increased in good times, if individuals borrowed primarily to finance marginal improvements to their land.

A further clue to the functioning of the credit market comes from evidence about participation. The 4,000 or so taxpaying households of the region of Nuits St. Georges notarized about 300 credit contracts annually. Adding to that total the 130 notes that were signed each year, and ignoring the substantial fraction that was never registered, gives a total of 430 contracts per year for the Nuits credit system. If contracts had been evenly distributed in the population across all types of loans, then nearly 11 percent of the population would have borrowed in a given year, and the same proportion lent. Yet credit was not evenly spread out, either by type of contract or by group. To assess participation given the data at hand requires a set of assumptions about household turnover (because of mobility in and out of the area, and because of marriages and deaths) and a method for matching individuals as they reappear in the registers of the *controle*. On the demographic side we will assume that turnover over 20 years was 50 percent, so that the total number of families at risk of borrowing over the whole period was about 6,000.¹⁸

The matching problem is complicated by the presence of fathers and sons who bore the same names and by the many individuals who changed occupation or residence over the course of two decades. For instance, by examining the tax *rolles* we can discover that Louis Gros

¹⁶ Farmers were more likely to turn to *rentes* for such loans. Farmers received more than half the loans and a third of the capital of the *rente* market.

¹⁷ See merchants defaults in AD Côte d'Or, serie B (*baillage de Nuits*) for purposes of obligation loans.

¹⁸ A 50 percent turnover over 20 years is consistent with the data being extracted from tax *rolles*, which indicate a great deal of turnover in households. However, some of the households that left one village moved nearby. A 50 percent turnover is also consistent with a life expectancy at age 20 of about 36 years, which would imply a turnover of about 54 percent per twenty-year period. For life expectancy, see Dupaquier, *Histoire de la population*, p. 100.

TABLE 3
CREDIT ACTIVITY INDICATORS

A. Participation Indicators ^a						
Definition of Individual	Number of Individuals	Individual Only Borrows	Individual Only Lends	Individual Borrows and Lends		
Same first and last name	4,978	2,398	1,868	712		
Same occupation, first and last name	6,227	3,066	2,437	724		
Same residence, first, and last name	6,623	3,444	1,819	360		
Same residence, occupation, first and last name	7,009	3,595	2,896	518		
B. Repeat Activity ^b						
Loans	All Individuals			Distant Participants		
	Only Borrows	Only Lends	Both Borrows and Lends	Only Borrows	Only Lends	Both Borrows and Lends
Average number of loans	3.5	6.1	8	2.7	4.2	3.9
Median	3	3	5	2	3	3
Standard deviation	2.7	12	25	1	5.3	4
Maximum	31	32	504	5	35	15
Individuals	831	735	510	9	65	15

^a All types of contracts were included in the table.

^b Individuals were required to have the same residence and first and last name.

Source: See the text.

was a name associated with two individuals (father and son). Louis Gros senior had a migratory bent. Between 1757 and 1765 he was a baker in Nuits. Then he moved to the nearby village of Chaux to be a merchant until 1773, whereupon he returned to Nuits. At about that time, his son appeared as a merchant in Nuits. In this particularly perverse example, if we assumed that all contracts with the same name belonged to the same person we would perceive only one Louis Gros. Requiring that occupation and name match would yield us three Louis Gros. A procedure demanding that name, occupation, and residence all agree would saddle us with four different Louis Gros. If, however, one grouped together contracts where name and residence were identical, one would get the appropriate number of individuals—two. These matches, however, would be inappropriate, because they would split the father's activity in two and lump his contracts from Nuits with those of his son. Although this example is extreme, the economic world of Nuits was one of great mobility, especially in agriculture where the boundaries between plowman, vintner, farmhand, and laborer were fuzzy and not infrequently crossed, if one is to trust the tax *rolles*. Although using tax *rolles* to identify individuals would be preferable, we can in the short run rely on evidence internal to the credit records to get a reasonable idea about participation. Table 3 presents the evidence about participation with varying definitions of identity.

Although the first method of identification in the table certainly leads to too few debtors and creditors and the last to too many, all provide qualitatively the same result: with 16,000 potential parties to 8,000 contracts, we have more than 5,000 and probably less than 7,000 actual parties. This may be a wide range, but the conclusion that participation was very broad is difficult to escape because the number of participants is close to the number of families. Even assuming an untenably high 100 percent turnover in households still leads to a participation rate of no less than 50 percent. To be sure, one should reduce the totals by the number of nonlocal participants, but these made up only 7 percent of creditors and debtors.

Although participation was widespread both for lenders and borrowers, Nuits St. Georges was not simply a bilateral credit system. As Table 3, panel B makes clear, lending was already highly concentrated, especially if one takes into account the fact that the individuals who both borrowed and lent were mostly lenders. The 17 individuals who each participated in more than 50 contracts were creditors in about 1,800 contracts. Of these big lenders, ten borrowed enough times to satisfy the definition of an intermediary directly. Of the seven big lenders who never appear in the record as borrowers, two were wealthy local seigniors who were also royal officers in Dijon or Paris and could therefore borrow large sums outside of Nuits. The importance of these individuals is even greater than it appears because most big lenders either began or stopped their activity within the period.

The rise of intermediaries with significant market shares in Nuits stands in stark contrast to the greater bilateralism of other French credit markets like L'Isle sur Sorgues or Paris.¹⁹ The divergent evolution of credit systems in different parts of France may stem in part from regional differences in credit demand, but it seems that a more fundamental force was at work. Paris and l'Isle were markets that served individuals with nonmovable assets. In l'Isle these assets were land, whereas in Paris they were real estate, government offices, and bonds. In both markets creditors could seize and sell a bad debtor's property, and as a result lenders may have been less concerned with establishing the details of an individual's credit rating.²⁰ In Nuits, the farmers who made up the vast majority of the borrowers held little or no land; thus their debts were poorly collateralized. The absence of good collateral made understanding a potential borrower's current economic situation and level of indebtedness essential. Thus informational requirements were greater in Burgundy than in the areas previously investigated.

¹⁹ In a given year, no lender ever made more than 10 percent of the loans—except Lacoste, who was creditor in 18 percent of all contracts in 1766 and 24 percent in 1767. For Paris, see Hoffman et al., “Credit Markets” and “What Do Notaries Do?”

²⁰ High legal costs ensured that it was rare that lenders recovered much from seized assets but borrowers usually lost all their collateral.

Economies of scale in information gathering ensured that Nuits's financial market would be more concentrated than the others.

Because communicating reliable information about creditworthiness is difficult, one might assume that individual borrowers would be very loyal to individual lenders.²¹ Indeed, repeat transactions would allow borrowers to economize on information transmission costs. Of the more than 830 repeat borrowers, less than 40 percent borrowed more than once from the same individual. Examining loans provides a similar answer—there were 675 loans involving repeat dealings, whereas multiple borrowers totaled nearly 3,000 loans and multiple lenders some 5,000. Most repeat dealings featured big lenders, but these contracts only formed a limited part of those lenders' total business. Indeed, repeat transactions formed less than 16 percent of the big lenders' business. Repeated interaction would have saved on information costs, but it also required that a lender's savings pattern match his borrower's demand for funds. Rather than repeat interaction, the evidence suggests that informational problems were overcome by intermediaries—notaries and merchants. If these intermediaries determined that the borrower was worthy of a loan, they either made the loan or referred the borrower to another source of credit.

Between 1756 and 1776 the credit market in Nuits was largely run by seven notaries, eight merchants and the agents of the local seigniors and abbeys. Like most people in preindustrial Europe, these men were not fully specialized; seigniorial agents managed rental properties; merchants sold goods and livestock; and notaries wrote up at least five noncredit contracts for every loan. Yet these few people seem to have collected information about debtors efficiently enough that the credit system was able to distribute loans broadly and, as we shall see, to dampen the various crises that affected the region.

THE RHYTHMS OF CREDIT ACTIVITY

Rural credit markets have shown great variability over time, but little has been done to examine the determinants of this variation outside of periods of dramatic political change. The two decades between 1756 and 1776 offer the opportunity to study the variation in credit activity in a period of relative political stability. Capturing the full extent of the credit market's response to variations in the economic and social environment would require a fuller data set than the one at hand, which lacks detailed information on interest rates, duration of loans, or collateral. Nonetheless, by examining both the movements of aggregate credit and those of some of its subcomponents one can learn much about what drove credit activity. The strongest rhythm in Nuits's financial

²¹ Given the dispersed settlement pattern, potential lenders were unlikely to have much information about potential borrowers unless they relied on an intermediary.

TABLE 4
CREDIT SEASONALITY

Quarter	Notes		Obligations		Rentes		Cessions		Total Volume	Loans to Farmers
	Loans	Amounts	Loans	Amounts	Loans	Amounts	Loans	Amounts		
I	720	141	1,413	121	186	518	99	488	416,000	1,341
II	710	130	1,505	113	137	500	101	523	385,000	1,423
III	512	178	791	129	108	569	82	776	318,000	703
IV	552	162	836	133	141	486	90	411	306,000	816

Source: See the text.

market was seasonal: from peak to trough credit activity fell by 50 percent. As Table 4 shows, obligations were the most seasonal of all loan types, followed closely by notes. Although *rentes* display a similar pattern, it is less marked—not surprising, because the brokering of long-term mortgage loans is a complex affair in which precise timing is less important than for short-term loans. Finally, cessions show little seasonality, which is consistent with the notion that financial agreements in these markets were of limited liquidity. It appears that creditors in need of cash were more likely to borrow than to resell an outstanding loan.

The severe seasonality of the credit market was driven by the number of credit contracts signed in a given season rather than by the size of loans, which displayed a slight countercyclical behavior. The early peak of credit activity is no statistical fluke, for the first semester of the year was always the most active, and financial activity was greatest in either the first or the second quarter in 19 out of 20 years. This seasonality was produced because those involved in the region's dominant economic activity—agriculture—favored the first half of the year (see Table 4, last column). Farmers were the dominant borrowing group, so they imparted this seasonality to all the lending groups. Although the lending behavior of farmers also peaked early in the year, it did not come close to matching the increase in agricultural borrowing. The high seasonality was thus possible because other groups whose credit demands were little correlated with those of farmers were willing to lend to them when they needed funds. The large farming sector explains the seasonal demand for credit, but what allowed the credit market to fill that demand was the substantial size of the trade and crafts sectors.

To account for the annual variation in credit activity we have a limited number of explanatory variables: birth, marriage, and death totals for Nuits and a small number of adjoining parishes; wine and wheat prices; the timing of wars and government defaults; and credit activity in Paris. Wine and grain harvests occur only once a year, so we have in effect

TABLE 5
REGRESSION OF ESTIMATES OF CREDIT ACTIVITY

	Total	Total	Notes	Notes	Obligations	Obligations	Rentes	Rentes
Constant	51,775 (20,176)	68,285 (13,794)	25,363 (8,526)	22,063 (5,930)	11,789 (12,978)	23,162 (9,296)	18,484 (8,533)	11,325 (7,483)
Marriages	-406 (312)	-451 (297)	-302 (132)	-274 (127)	-172 (193)	-219 (201)	18 (153)	81 (162)
Wheat price	504 (268)		-43 (113)		403 (177)		-85 (100)	
Wine price		223 (138)		1.5 (59.2)		217 (91)		11 (67)
R^2	0.39	0.39	0.30	0.30	0.46	0.43	0.12	0.07
\bar{R}^2	0.32	0.32	0.22	0.22	0.40	0.36	0.02	-0.02
Rho	0.17	0.28	0.16	0.24	0.27	0.13	-0.28	-0.24

Notes: All variables are in *livres*. Standard errors appear in parentheses. The regressions reported are corrected for first order serial correlation.

Source: See the text.

only 20 observations.²² For this reason, I employed a simple statistical approach: linear regressions corrected for first order autocorrelation. Aggregate credit activity for each year can be broken down by type of contract, geographical origin, and occupation of borrower or lender, resulting in more than 100 potential independent variables, all of which could vary differently. To make the analysis manageable, a somewhat arbitrary set of restrictions was imposed. First, only the contemporaneous effects of independent variables are reported.²³ Second, I limit the disaggregated investigation to two series—total volume of credit or obligations broken down either by occupation or residence.

During the 20 years under study the area around Nuits experienced substantial demographic variation (the coefficient of variation of each demographic series is nearly 30 percent). This variation offers an opportunity to evaluate the relationship between credit activity and births, deaths, and marriages. The demographic history of preindustrial societies remains heavily influenced by Malthus and tends to emphasize the importance of income constraints on family planning. Most of these analyses assume that demographic decisions like births and marriage were strictly financed out of current income. The evidence I have presented on the broad distribution of credit suggests that families were not so constrained, but it remains to be seen empirically whether their choices to use credit markets were determined by demographic factors. As Table 5 reports, demographic variables played a limited role in determining credit activity. Neither births nor deaths had any clear

²² Since wine and grape prices covaried closely, I only include one of these in any regression to avoid problems of multicollinearity.

²³ To be sure, for those variables that were eliminated as irrelevant, leads and lags were also attempted with no success. As for the variables that are discussed at length, the contemporaneous effect most often dominates those of lagged values.

impact on any series, so I did not report the regressions that included those variables. The irrelevance of births is not altogether surprising because most couples had many more children than the number of loans they may have contracted. Death is a more complex issue. The death series is the weakest of the three, because for Nuits itself only adult deaths have been tabulated.²⁴ In theory, adult deaths should have had a different impact on credit activity than child deaths, because the death of an adult could have occasioned the breakup of a family, which would have had far more financial consequences than the demise of a youngster. Unfortunately, the role of death in credit activity cannot be fully resolved with the data at hand.

Unlike births and deaths, marriages generally have a negative impact on credit activity. This correlation could stem from one of two factors. First, marriage rates could be an indirect indication of the general economic situation. As previously shown by David Weir, people in France married in good times. Indeed, periods of low grain prices corresponded to significantly higher marriage rates.²⁵ Second, marriages could have a direct effect on credit if families financed weddings by turning their credit activity inward, either by hoarding their savings or by keeping money reimbursed by debtors rather than lending it out again. This would reduce the external—and observable—supply of credit. This view is supported by evidence drawn from the breakdown of contracts by type, in which the only positive coefficients for marriages come from *rentes* volumes that were by definition dynastic contracts.

The present analysis, then, indicates that marriage is the only demographic variable that had a consistent (negative) effect on credit activity. However, more refined data than those under examination would be required to test the specific causal connections between marriage and credit activity, as well as the possible effects of births and deaths, which reveal no determining effects on credit activity within the limits of the present data.²⁶

The analysis of the effect of prices must begin with a consideration of elasticities of demand. Because the demand for wheat was inelastic, whereas that for wine was elastic, one might assume that income in Nuits was high in periods of elevated grain prices and low in periods of high wine prices. Yet years of high grain prices were also years of relative harvest failures, when many farmers experienced temporary revenue shortfalls. Years of high wine prices, on the other hand, were years of good-quality wine when revenues may have been correspond-

²⁴ The demographic data were originally collected by genealogists who cared little about infant mortality. The appropriate corrections are currently being carried out.

²⁵ Weir, "Life."

²⁶ On marriages, compare my later discussion of plowmen and winegrowers.

TABLE 6
REGRESSIONS ON VOLUMES DISAGGREGATED BY OCCUPATION

	Lenders				Borrowers			
	Agriculture	Crafts	Trade		Agriculture	Crafts	Trade	
Constant	6,370 (3,117)	5,183 (1,911)	2,523 (1,868)	268 (5,045)	16,746 (8,140)	20,254 (5,495)	1,043 (1,406)	1,768 (2,093)
Marriages	-59 (46)	-47 (41)	-8.9 (27)	23 (76)	-186 (118)	-197 (118)	-40 (30)	-16 (45)
Wheat Price	26 (42)		-10 (25)	166 (68)	166 (68)		41 (12)	46 (20)
Wine Price		41 (19)				79 (54)		
R^2	.31	.44	.13	.33	.44	.43	.43	.28
\bar{R}^2	.23	.37	.03	.25	.38	.37	.37	.22
Rho	.28	.23	.31	.22	.31	.25	-.23	.14
N	19	19	19	19	19	19	19	19

Notes: All variables are in *livres*. Standard errors appear in parentheses. The regressions reported are corrected for first order serial correlation.

Source: See the text.

ingly high, reducing incentives to borrow.²⁷ The statistical evidence, nonetheless, is unambiguous: prices mattered to financial markets, and wheat prices mattered more than those for wine. With nearly equivalent means (wheat 53 sous and wine 51 sous), the coefficients for wheat are twice as large as those for wine, implying that the elasticity of credit with respect to grain prices was double that for wine.²⁸

The regressions lump all borrowers and lenders together, despite the fact that farmers and urban workers probably had rather different reactions to changes in prices. Table 6 provides the results of the same regressions at a more disaggregated level. For the sake of brevity, I have displayed only those regressions relevant to the argument. To avoid sample selection problems, I concentrate on obligation totals. Generally the results are consistent with the aggregate analysis. The coefficients, however, have the same sign for lending and borrowing so that a variable that increases a social category's propensity to borrow also increases its propensity to lend. These variables therefore are more likely to be indicators of the variance of earnings within a social category than of its mean. If the earnings of all individuals in a group go up by 1 percent and that group's borrowing decreases, its lending should not fall. Yet we observe the opposite, which suggests that the best way to elucidate what forces drove the credit market is an investigation that

²⁷ Unfortunately, neither Saint-Jacob nor Lavalley from whose work prices are drawn make it clear whether the prices were computed for harvest years or for calendar years. Previous research has shown that these details have a statistically important impact. See Rosenthal, "Revolution."

²⁸ Table 6 also shows that both notes and *rentes* were mainly driven by factors other than prices. For notes in particular the suspicion is that the decision to register a note created serious sample selection bias.

focuses on individuals rather than groups. Nonetheless, the aggregate price analysis confirms that credit markets in preindustrial France reduced the impact of short-term scarcity by allowing individuals to move resources across time.

The occupational breakdowns can be carried further within agriculture to isolate the credit volumes of plowmen and winegrowers. Because plowmen were principally grain farmers, one would expect that wine prices would be much less important to them than wheat prices. This turns out to be the case, as well as the converse: winegrowers were not as sensitive to grain prices as they were to wine prices. Further, plowmen's borrowing does not respond to our marriage indicator. Marriage totals contain no data for the plain villages where plowmen dominate. Winegrowers, however, have the familiar negative correlation between credit activity and marriages. Because the overall economic conditions of the area were probably highly correlated from grain to winegrowing, these findings further reinforce the notion that marriages acted directly upon credit.

If nature's shocks seem to have had a limited but clear impact on the credit system, those inflicted by royal policy prove more difficult to trace. With one exception, dummy variables for war (1757 to 1763) or periods of government default (1759, 1770, or 1766 to 1770) had no impact on financial activity in Nuits at any level of aggregation.²⁹ The one exception involves distant participants, who increased their note lending and decreased their obligation lending during a period of default. The increase in their note lending was very large (the dummy variable is half the mean of the dependent variable), whereas the decrease in their obligation contracting was a good deal smaller. The note activity increase is probably attributable to increased registration. Government defaults drove intermediaries like Lacoste out of business or at least made it difficult for such men to meet their creditors' demands. They in turn registered their temporarily or permanently unpaid notes. Thus the observed increase in activity may merely be a reflection of the increase in registration. The decline in obligation lending, however, is not spurious but rather a sign that whenever political instability increased, credit markets closed in on themselves.

The effect of financial crisis on the region was also dampened by Nuits's limited reliance on interregional capital flows. Merchants were at the center of the regional credit market, and as the story of Lacoste and the increased registration by distant note holders suggests, this market faltered in 1770. Notarial credit, however, continued virtually unscathed. Even *rente* volumes—a type of loan for which the government reduced the legal interest rate from 5 to 4 percent between 1766 and 1770—failed to register a decline. Of course, this isolation came at

²⁹ These regressions were not reported for lack of space.

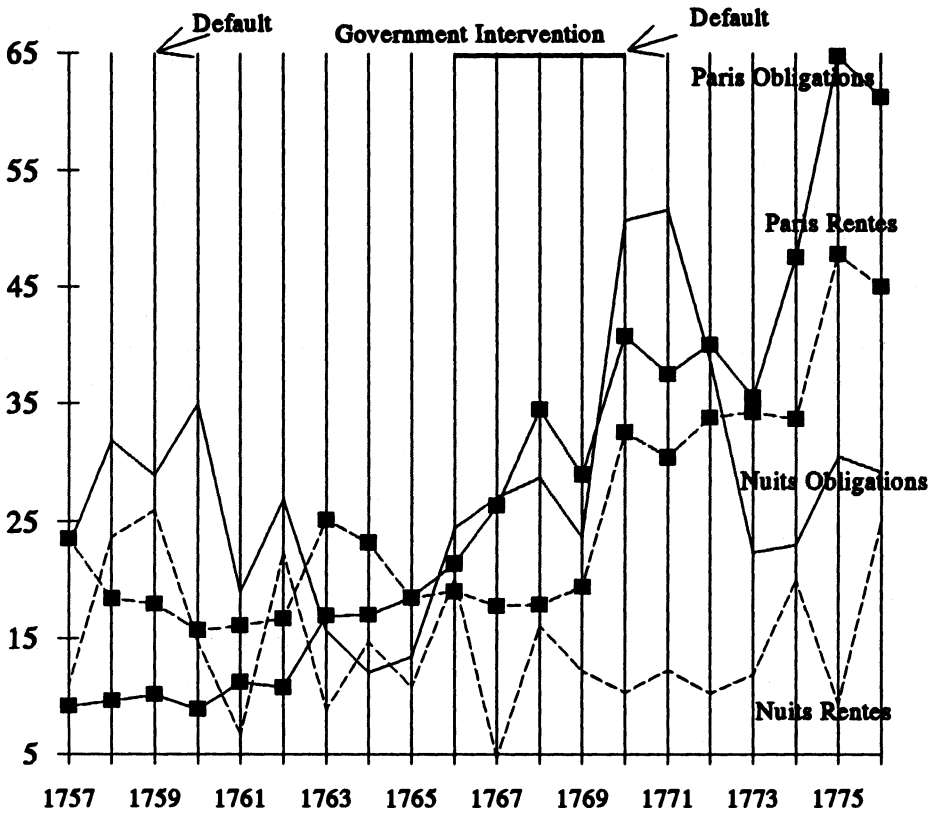


FIGURE 1

CREDIT ACTIVITY IN NUITS AND PARIS, 1757-1776

(Nuits in thousands of livres, Paris in millions of livres)

Source: See the text.

a cost for it meant that capital transfer from region to region could not offset nature's shocks to local agriculture.

The experience of Nuits contrasts strikingly with that of the only credit market for which comparable information is available, Paris.³⁰ In Paris economic and demographic variables had no bearing on credit activity, whereas government intervention mattered a good deal more. Figure 1 shows that whereas war and default affected credit markets in Paris, they did not in Nuits. For instance, in Paris war brought on a decline in credit activity that picked up again after the peace of 1763. In Nuits the reverse occurred, and credit actually dropped after the war ended. The imposition of the 4 percent interest rate cap early in 1766 brought stagnation to Parisian notarial finance, whereas after the return to 5 percent in 1770, *rentes* contracting was greatly stimulated. The events of 1766 had no impact on *rente* contracting in Nuits, and the return to stability in 1770 ushered in a prolonged decline in *rentes*.

³⁰ See Hoffman et al., "Economie."

Given this evidence, it is tempting to conclude that credit markets were poorly integrated in eighteenth-century France. As in most preindustrial capital markets, adjustments depended on specific individuals rather than on anonymous market forces. These individuals were mostly merchants; because their activities were easily disrupted by the state, their networks remained fragile. Notaries ran credit systems that were local in nature and remained shielded from most government intervention. Thus merchants and notaries carried out complimentary activities. Given the demand for interregional capital flows and the very real threats of government intervention, it is not surprising that the local, bilateral markets of notaries and the regional ones of merchants did not merge.

To surmount harvest failures, epidemics, wars, and other crises that pervaded rural areas in preindustrial Europe, credit systems had to be resilient rather than narrowly efficient. Information technology and the costs of recovering debts at a distance made these markets primarily local. To be sure, a system of commercial credit thrived alongside the local credit market, and this system has received the most attention from scholars of financial history. Yet the differences in average duration between notes, *rentes*, and obligations imply that the financial stock was overwhelmingly notarial credit.

CONCLUSION

Credit markets in Nuits Saint-Georges distributed funds quite broadly in the population. Individuals could borrow and lend using a variety of instruments including long-term debt collateralized by land (*rentes*). However, because most farmers owned little land to use as collateral, the bulk of the activity was in short- and medium-term debt. To reduce the high transactions costs of short-term debt, the market was intermediated by merchants and notaries. Quantitative analysis of credit activity suggests that individuals used these markets to invest their savings and that they withdrew their funds when they needed to provide for their children. Individuals also regularly turned to credit markets to deal with adversity. The limited scope of interregional capital markets, however, forced individuals to borrow within the local community. Thus credit markets could offer only a partial solution to crises in output. The sheer variety of ways in which rural credit markets affected the lives of individuals in preindustrial France argues that they were simply too important to the local economy to ignore any longer.

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